MULTIMEDIA UNIVERSITY

STUDENT ID NO

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# MULTIMEDIA UNIVERSITY

# FINAL EXAMINATION

**TRIMESTER 1, 2022/2023 (TERM ID: 2210)**

## BIE2024 – INTERMEDIATE MICROECONOMICS

(All sections / Groups)

13 FEBRUARY 2023
9.00 am – 11.00 am
(2 hours)

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**INSTRUCTIONS TO STUDENTS**

1. This Final Exam consists of **THREE (3)** pages including a cover page with **FOUR (4)** Structured Questions.
2. Please **write the answers in the answer booklet** provided.
3. Candidates **MUST** attempt **ALL** questions.
4. The marks distribution for each question is given. Total marks 100.

**INSTRUCTION: Answer ALL of the questions.**

**Question 1 (25 marks)**

a) Sally likes peanut butter and jelly together in her sandwiches. However, Sally is very particular about the proportions of peanut butter and jelly. Specifically, Sally likes 2 scoops of jelly with each 1 scoop of peanut butter. The cost of "scoops" of peanut butter and jelly are \$0.50 and \$0.20, respectively. Sally has \$9 each week to spend on peanut butter and jelly. (You can assume that Sally's mother provides the bread for the sandwiches.) If Sally is maximizing her utility subject to her budget constraint, how many scoops of peanut butter and jelly should she buy? (13 marks)

b) Kiki is participating in a game show and has selected the prize that lies in Box 2. The game's host tells her that that is a 50 percent chance to have a worth \$10,000 gold bracelet and a 50 percent chance to have nothing. Before the box is opened, the game's host gives her an option for selling to him what is in the box for \$6000 if she pays him \$3000 for this option.

i) If Kiki cares about the expected dollar values of various outcomes only, will she buy this option? (6 marks)

ii) Why does Kiki's degree of risk aversion might affect her willingness to buy this option? (6 marks)

**Question 2 (25 marks)**

a) Illustrate how should a firm decide whether to shut down or not when it suffers negative profit in the short run. (5 marks)

b) Distinguish the features that have a higher rate of technical substitution (RTS) and lower RTS with examples. (10 marks)

c) Illustrate how a firm should minimize cost by using isoquant and isocost curves. (10 marks)

**Continued...**

**Question 3**

a) A monopolist faces demand from two different market segments. In the first segment, demand is given by $P_1 = 50 - 2Q_1$ and in the second segment, demand is given by $P_2 = 30 - 0.5Q_2$. If the monopolist has a constant marginal cost MC = 10, what price should the monopolist charge each market segment and how many units will it sell to each segment if it engages in third-degree price discrimination? (10 marks)

b) In a certain market, in the long run, each firm and potential entrant has a long-run average cost curve $AC = 10Q2 - 5Q + 20$ and a long-run marginal cost curve $MC = 30Q2 - 10Q + 20$ where $Q$ is thousands of units per year. Market demand is given by $D(P) = 39{,}000 - 2{,}000P$.

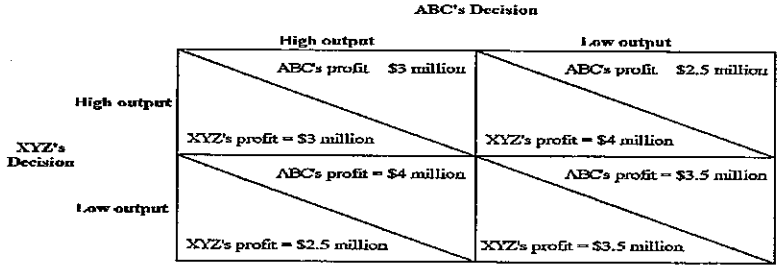
i) In equilibrium, how many units will each firm produce? (4 marks)
ii) Compute the market equilibrium price. (4 marks)
iii) What is the equilibrium number of firms in the long run? (2 marks)

c) Examine what is "dominant strategy" is in the Game Theory. (5 marks)

**Question 4 (25 marks)**

a) Illustrate that a certain level of greenhouse gas emission is acceptable by using cost-benefit analysis. Include the related diagram in your answer. (10 marks)

b) Two companies, ABC and XYZ, each decide whether to produce a high level of output or a low level of output. In the figure, the dollar amounts are payoffs and they represent annual profits for the two companies.




Fully explain and justify your answers to the following questions:

i) What is the dominant strategy for ABC? For XYZ? (5 marks)
ii) If this game is played only once, what is the most likely outcome? (3 marks)
iii) Would your outcome to part (ii) be different if the game is repeated? (5 marks)
iv) Is it socially desirable for the oligopolists to cooperate? (2 marks)

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